R E P O R T R E S U M E S

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COURSE OUTLINE FOR AGRICULTURAL SUPPLY - SALES AND SERVICE OCCUPATIONS.

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TITLES OF MODULES, PURPOSES, TIME AND SUPPORTING EDUCATIONAL REQUIREMENTS, AND OPERATIONAL DETAILS OF A COURSE ARE GIVEN IN THIS PUBLICATION DESIGNED TO ASSIST STATE AND LOCAL VOCATIONAL EDUCATION LEADERS IN DEVELOPING PROGRAMS TO PREPARE HIGH SCHOOL STUDENTS FOR ENTRY AND ADVANCEMENT IN BUSINESSES WHICH SELL AGRICULTURAL SUPPLIES AND SERVICES TO FARMERS. UPON RECOMMENDATION OF A NATIONAL CONFERENCE, IT WAS DEVELOPED BY A NATIONAL TASK FORCE ON THE BASIS OF DATA FROM STATE STUDIES AS PART OF A U.S. OFFICE OF EDUCATION FUNDED PROJECT. THE MODULES COVER (1) CAREER OPPORTUNITIES IN SALES, (2) ORIENTATION TO OCCUPATIONAL EXPERIENCE, (3) HUMAN RELATIONS, (4) SALESMANSHIP, (5) BUSINESS ORGANIZATION AND FUNCTIONS, (6) BUSINESS PROCEDURES, (7) FEED SALES AND SERVICE, (8) CROP, LAWN, AND GARDEN SEED SALES AND SERVICE, (9) FERTILIZER SALES AND SERVICE, (10) CHEMICAL SALES AND SERVICE, AND (11) MISCELLANEOUS SUPPLIES AND SMALL EQUIPMENT SALES AND SERVICE. THIS DOCUMENT IS AVAILABLE FOR A LIMITED PERIOD AS PART OF A SET (VT 000 632 - 000 644) FOR $7.00 FROM THE CENTER FOR VOCATIONAL AND TECHNICAL EDUCATION, THE OHIO STATE UNIVERSITY, 980 KINNEAR ROAD, COLUMBUS, OHIO 43212. (JM)

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COURSE OUTLINE

FOR

AGRICULTURAL SUPPLY—— SALES AND SERVICE OCCUPATIONS

The Center for Research and Leadership Development

in Vocational and Technical Education

The Ohio State University
980 Kinnear Road
Columbus, Ohio, 43212

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August, 1965

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M E M O R A N D U M

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(3) Utilization of Material:
Appropriate School Setting High school
Type of Program General high school class in agricultural supply
Occupational Focus Job entry in retail business that sell agricultural supplies
Geographic Adaptability Nationwide
Uses of Material Instructor course planning
Users of Material Teachers

(4) Requirements for Using Material:
Teacher Competency Background in agricultural supply--sales and services
Student Selection Criteria High school level, goal in agricultural supply--in the area of sales or service.
Time Allotment Estimated time listed in module. (P)

Supplemental Media --
Necessary x
Desirable
(Check Which)

Describe Suggested references given in module. (P)

Source (agency)
(address)

Content of a Course for
AGRICULTURAL SUPPLY--SALES AND SERVICE OCCUPATIONS

Teaching Modules Making Up This Course

Note: The following modules are listed in what is felt to be a logical order for teaching. They should be arranged, however, as the teacher deems best to meet the needs of the students in his class.

1. Career Opportunities in Agricultural Sales and Service
2. Orientation to the Supervised Occupational Experience Program
3. Human Relations in Agricultural Occupations
4. Agricultural Salesmanship
5. Organizations and Functions of Agricultural Businesses
6. Business Procedures
7. Feed--Sales and Service
8. Crop, Lawn, and Garden Seeds--Sales and Service
9. Fertilizers--Sales and Service
10. Agricultural Chemicals--Sales and Service
11. Petroleum and Petroleum Products--Sales and Service
12. Miscellaneous Agricultural Supplies and Small Equipment--Sales and Service

Publications on Off-Farm Agricultural Occupations
Available From
The Center for Research and Leadership Development
in Vocational and Technical Education
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This publication is one of a series relating to Off-Farm Agricultural Occupations developed at The Center for Vocational and Technical Education under a grant from the Division of Adult and Vocational Research, U. S. Office of Education. Each of these publications was designed for a specific purpose. However, they are designed to complement and reinforce each other. It is suggested that persons using any of these materials will want to familiarize themselves with the other publications in this series. Following is a complete listing of this series.

1. Policy and Administrative Decisions in Introducing Vocational and Technical Education in Agriculture for Off-Farm Occupations

2. Vocational and Technical Education in Agriculture for Off-Farm Occupations

3. Summary of Research Findings in Off-Farm Agricultural Occupations

4. Planning and Conducting Cooperative Occupational Experience for Off-Farm Agriculture

5. Occupational Guidance for Off-Farm Agriculture

6. Horticulture - Service Occupations
(Course outline and twelve modules)

7. Agricultural Supply - Sales and Service Occupations
(Course outline and twelve modules)

8. Agricultural Machinery - Service Occupations
(Course outline and sixteen modules)

9. Agricultural Chemical Technology
(Course outline and nine modules)

PREFACE

This publication is one of a series developed by a national task force at The Center for Vocational and Technical Education to assist state and local vocational education leaders in developing programs to prepare youth and adults for employment and/or advancement in off-farm agricultural occupations.

This project had its origins in the National Research Coordination Conferences on Off-Farm Agricultural Occupations sponsored by The National Center for Advancad Study and Research in Agricultural Education and the Agricultural Education Branch of the U. S. Office of Education in May of 1963 and January of 1964. These conferences were designed to assist states in undertaking studies of off-farm agricultural occupations training needs.

Subsequently, the Center was given a grant by the Bureau of Adult and Vocational Research to synthesize these studies, develop needed instructional and program materials, and conduct training conferences on their use.

The task force of 30 people from 16 states has included personnel with a wide range of backgrounds and responsibilities in agricultural education, vocational education, agricultural technology, and agricultural industry. Several project advisory meetings were held to secure needed counsel from diverse, but relevant groups and to help the task force maximize the potential benefits and uses of these materials.

Primary leadership for the development of this publication was provided by Dr. J.H. Lintner and Mr. William Becker. Assisting them on the project were Mr. Howard Nowels, Dr. William H. Hull, Mr. Robert Steffy, Dr. J.R. Warmbrod, Mr. Robert Kerwood, Mr. James Christiansen, and Dr. George Luster.

In developing these instructional materials, prime consideration was given to the data revealed by the studies of agricultural business and employee training needs conducted in several states. Current and projected employment opportunities dictated the areas in which instructional materials were developed. In addition, these studies identified those occupations which require knowledge and skill in agriculture. They also contributed to the development of the publication series through the identification of specific competencies needed by individuals for entry and persistence in agricultural occupations.

Members of the task force were aided in the development of these publications through personal visitations to outstanding existing off-farm agricultural occupational programs. Frequent consultations with trade association educational committees and agricultural industry leaders concerned with personnel development were helpful

in further "keying" these materials to employment needs. Existing materials were carefully reviewed and evaluated in terms of their utility in the preparation of these workers and, when suitable, were recommended as a part of these publications. References are also made to other instructional materials and sources designed to aid teachers and supplement and reinforce project materials.

Following the first draft of each publication by the Center, copies were sent to a wide range of knowledgeable individuals for review and evaluation. Reviewers included experienced teachers in vocational agriculture and other vocational services, college and university specialists in the appropriate subject-matter area, supervisory and research personnel, and agricultural business and industrial leaders. Many of their comments and suggestions were incorporated into the revision. However, the final responsibility for the content rests with the project staff.

It should be recognized that these materials are still developmental in nature. Although considerable time and effort have been expended to bring them to this stage of development, it is recognized that they are not the final answer in planning and conducting off-farm agricultural education programs. We hope that the experiences gained through the utilization of these materials during the coming year will assist us in their further refinement.

Your attention is directed to the evaluation form which accompanies each module. Persons using these materials are asked to complete the form and return it to the Center. We believe these evaluations, based on actual experiences, will provide a valuable basis for further improvement and will help identify voids in existing materials.

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INTRODUCTION

Agriculture is changing. This has always been true, but changes in agriculture have been of gigantic proportions for the last ten to fifteen years.

In the early history of our country, agriculture and farming were synonymous. Both terms meant the production and basic distribution of crop and livestock products. Today, however, the production of agricultural products (farming) has become a highly specialized, complex, and technical operation.

Farms are becoming larger and the production of agricultural products is becoming more and more efficient and competitive. With new, bigger and better machines, improved crop varieties, better breeding of farm animals, improved chemicals, and efficient soil-fertility materials and techniques, our total need for agricultural products is being met by a smaller and smaller segment of our population. Some experts predict that it is possible that ultimately just two percent of our population will produce all the agricultural products needed by all of our people.

With the tremendous increase in capacity to produce agricultural products, other very significant changes in agriculture have been taking place. The processing and distributing of agricultural products have moved off the farm. Each of these functions has become a major aspect of the total business of our nation. In addition, the supplying of materials, supplies, and equipment for use by farmers in production has become big business. In fact, it is a major segment of our total economy.

Because processing and distributing agricultural products and supplying production needs for farmers have greatly expanded, the need for workers in these areas has also greatly expanded. These non-production agricultural functions demand a different vocationally trained person than does farming.

A farm background will be of much value to most workers in off-farm agricultural occupations. However, these workers need additional specialized training for their specific agriculturally-related vocation.

This course is to prepare workers for one of these phases of agriculture, other than farming. (The most common phrase used to designate these vocations is "off-farm agricultural occupations.") The purpose of this course is to prepare high-school students for job entry in businesses which sell agricultural supplies (primarily production supplies) at the retail level to farmers.

The 1963 Vocational Education Act encouraged the developing of new programs to train workers for off-farm agricultural occupations. It presented a challenge to people interested in vocational education to establish educational programs which would provide classroom, laboratory, and occupational experiences needed to develop the competencies needed to succeed in off-farm agricultural occupations. It was in this

setting that the need for programs to train workers for businesses which sell agricultural supplies and services to farmers developed. Teaching for this purpose should be very challenging, stimulating, exciting, and rewarding.

This course should be considered as developmental in nature. It is among the first efforts to develop a course of this type. After the course has been used and evaluated, adjustments and improvements should be made.

However, within the limit of the time available every effort has been extended to prepare a course which will be useful in preparing workers for agricultural sales and service businesses. Quite naturally, the course has limitations. The Center sincerely solicits comments and suggestions for improvement from all teachers who use this course (as a whole or any part of it) to help them prepare to teach.

AGRICULTURAL SUPPLY--SALES AND SERVICE OCCUPATIONS

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Course For

AGRICULTURAL SUPPLY--SALES AND SERVICE OCCUPATIONS

Purpose of the Course

The purpose of the course is to prepare high-school students for successful job entry in retail businesses that sell agricultural supplies and services. (The course is largely limited to preparing students to sell production agricultural supplies, such as feeds, seeds, fertilizer, chemicals, and small items and equipment of a similar use. The course is not intended to prepare workers to sell major agricultural items or supplies such as farm machinery, tractors, heavy building materials, etc.)

Major Occupations for Which the Course Is Intended

Salesman of agricultural production supplies
Salesman of small items of equipment
Product salesman
Sales clerk
(Occupations associated with selling and servicing agricultural products within the retail business establishment. There are several types of such occupations. One example is the operator of seed-cleaning equipment in a retail farm seed dealership.)

The primary emphasis of this course is job entry in retail businesses selling agricultural supplies and services. Some of the more capable and ambitious trainees will use this training, with experience and additional training, as a stepping stone to more advanced positions. Some examples of these positions are on-the-farm salesman and advisor, department manager, assistant manager or manager of a retail business, advanced service or field man for a retail business.

Suggested Time Allotments

Many factors will determine the amount of time allotted to the course. If the course is planned for a full year, in most high schools the maximum time for teaching at school will likely be 180 hours (one hour a day for the nine-month school year). Actually, it is unlikely that more than 165 to 170 hours will be available for teaching, due to faculty in-service days and other interruptions which normally occur in most high schools.

If the duration of the course is two years, then a maximum of 360 hours for class work will be available. If the course is for a year and a semester (half year), the maximum teaching time at the school will likely be 270 hours.

The amount of time available for supervised occupational experience in most cases will be somewhat more flexible than that available for class work or at-school instruction. Sufficient time for occupational experience must be available, and scheduled, for each student if the course is to be successful.

The suggested times which follow are for the complete course. Teachers should select and use only those modules which are needed by their students in the local training situation. Likewise, within each module, teachers should select and secure only those competencies which they need to develop in their students. This course then may be adapted to different periods of time, depending upon the selection of content by the teacher as dictated by the teaching time available, the opportunities for occupational experience, and the needs of the students in the course.

At school

Class instruction	286	hours
Laboratory experience	97	hours
Total at school	383	hours
Occupational experience on-the-job	394	hours
Total for course	777	hours

The following table gives the suggested time allotments by modules. These times are when each module is dealt with in its entirety.

MODULE	HOURS	
	At School Class Work	Occupational Experience
Career Opportunities in Agricultural Sales and Service	10	10
Orientation to The Supervised Occupational Experience Program	5	0
Human Relations in Agricultural Occupations	24	12
Agricultural Salesmanship	30	36
Organizations and Functions of Agricultural Businesses	12	6
Business Procedures	30	30
Feeds--Sales and Service	48	48
Crop, Lawn, and Garden Seeds--Sales and Service	70	70
Fertilizers--Sales and Service	50	50
Agricultural Chemicals--Sales and Service	36	72
Petroleum Products--Sales and Service	48	40
Miscellaneous Agricultural Supplies and Small Equipment--Sales and Service	20	20

It will be useful for the teacher if the time used to deal with each competency (and each module) is noted on the course. The noting of the time devoted to competencies on the margin will be useful in evaluating the course and in planning to teach the course in future years. In addition to noting the time required, a note on teaching method and techniques used with each competency may be useful in the future.

Persons to be Served

This course was developed to help teachers prepare to teach high-school students. (With adaptations, however, it may be used with other groups.)

Suggested Supporting Education

It is desirable that students have completed at least two years of vocational agriculture before enrolling in this course. More important than the number of years of vocational agriculture that students have taken, however, is their understanding of agriculture and the sciences upon which it is based. They should have studied feeding livestock; using fertilizer, and soil-building materials; seeding crops; using chemicals to control insects, disease, and weeds; mathematics, and other basic educational programs. Courses in speech, general business, typing, and bookkeeping will be useful. In some cases some of these courses may be taken concurrently with this course.

Personal work habits, neatness, dress, and the like are also important in students. A good knowledge of farm people and farm life will be an asset.

The capable, intelligent person, with proper motivation, will likely succeed in the course and as a salesman even though he has a limited background in some of the desirable supporting education.

Suggestions for Introducing the Course

The teacher, in introducing the course, should explain thoroughly what the course is to do. He should make clear to students how the course will benefit them. They should know what will be covered in the course. The class and occupational on-the-job work schedules should be agreed upon. The procedures and policies for occupational experience in local businesses should be understood.

The students should know what they can expect from the teacher and the teacher should inform students of what is expected of them. Clear and complete understandings between the teacher and students early in the course may avoid serious problems and misunderstandings later.

In order to succeed in selling agricultural products in retail businesses, certain desirable attitudes, understandings, and abilities must be developed. The teacher and students should do whatever is necessary to make the course succeed. There follow some student requirements for a successful program:

1. A good attitude toward work and the business of selling
2. Good work habits
3. A safety consciousness
4. A desire to develop the personal qualities needed by a salesman
5. A good knowledge of the products to be sold
6. Skill in working with people--employer and supervisor, fellow worker, and customer

Students should realize that they have these specific responsibilities in the course:

1. Being regular and prompt in class attendance
2. Being prepared to participate in each class session
3. Making up missed work
4. Following instructions of teacher and employer
5. Being fair, honest, and considerate of others
6. Being safety minded

The modules "Career Opportunities in Agricultural Sales and Service" and "Orientation to the Cooperative Occupational Experience Program" will serve to further introduce the course.

The Nature of the Course

The purpose of the course is attained most effectively and most logically when the major components of the course are properly identified, analyzed, and arranged for teaching. These basic components of a course are most often called major teaching objectives. A block of time is needed to attain each major teaching objective. The amount of time required to attain any major teaching objective, however, depends primarily upon the scope and difficulty of the objective, the ability of the teacher to teach, and the ability of the students to learn.

This course is composed of teaching modules; each module to attain a major teaching objective. (Modules are further explained in the section, "Suggestions for Using the Course.") The titles of the eleven modules making up the course follow:

1. Career Opportunities in Agricultural Sales and Service
2. Orientation to and Planning for the Cooperative Occupational Experience Program
3. Human Relations in Agricultural Occupations
4. Agricultural Salesmanship
5. Organizations and Functions of Agricultural Businesses
6. Business Procedures
7. Feed--Sales and Service
8. Crop, Lawn, and Garden Seeds--Sales and Service
9. Fertilizers--Sales and Service
10. Agricultural Chemicals--Sales and Service
11. Petroleum and Petroleum Products--Sales and Service

Some schools may wish to initiate some student organization to give identity to the class in agricultural sales and service. Perhaps some kind of appropriate insignia suitable to be attached to the clothing that students wear in their supervised occupational work experience would be desirable. This would give the trainees and the school identity as students work in the businesses which provide cooperative on-the-job experience in selling. Teachers and persons who manage or own the cooperating businesses should do all they can to make the training programs good ones, to enable the students to have pride in their work, and to acquaint the public with the training programs.

Suggestions for Using the Course

The major blocks of the course are teaching modules. A module is to attain a major teaching objective (which contributes to the purpose of the course). Each module should be selected and used by the teacher on the basis of its major teaching objectives. If the major teaching objective is a needed part of the local program, the module should be used. If not, the module should not be used in the course.

Each module has its being as a definite part of a course. It fits a course. Modules are developed, however, as self-contained, independent units. Any module may be taught completely by itself or it may be used as a part of another course (if it fits the purpose of the course).

The major components of a teaching module are (1) the major teaching objective, (2) suggested time allotments for teaching at the school and for occupational experience, (3) suggestions for introducing the module, (4) the competencies to be developed, with appropriate content, (5) suggested references and instructional materials, and (6) suggestions for evaluating the teaching.

Each competency includes subject matter content as needed to help the teacher in lesson preparation, suggested teaching materials , suggested occupational experience, and suggested teaching-learning activities.

The subject matter content provides a quick, comprehensive, overall view of what is involved in developing the competency in students. It may include information in any form, such as topical outlines, declarative statements, paragraphs of information, charts, graphs, tables, etc. The subject matter in the module is not intended to be all that the teacher will need to prepare to teach-- but it will give the teacher a good start toward lesson preparation. The teacher will need to consult the references listed and other available material for additional information.

Most references suggested may be used by both the teacher and the students. Some references may be too technical for students and are designated as references for teacher use only. Where problem solving is the teaching method used, students should read appropriate, well-chosen references to give them the information needed to solve the problem being considered.

Teaching-learning activities give the teacher suggestions of ways to teach and handle the class. The wise use of the suggestions, adapted to the local classroom situation, should make the teaching more interesting and more effective. Varied techniques should be used in teaching. Care should be exercised to avoid making the teaching in the classroom a teacher-centered learning situation.

Suggested occupational experiences are to guide the on-the-job activities of the student. The classwork and the on-the-job occupational experiences should be closely coordinated. The cooperating business should know what is being taught in class on a weekly basis. The teacher, likewise should know what experiences the student is getting in the business.

In this course the area of "store skills" has been integrated as a part of other competencies, and is not dealt with as a module. Likewise, "displays," as such, have not been dealt with in the course materials. It is suggested that the areas of "store skills" and "displaying merchandise and advertising displays" be given special emphasis in the occupational experience.

The key to the success of any course is the teacher. The teacher of this course should have had experience in agricultural supply retail businesses. It is desirable that he have had training in business procedures, salesmanship, and human relations. If the teacher has not had this experience, he should work closely with the cooperating businesses in acquiring such knowledges and skills in which he is deficient. The help of persons in distributive education and resource people from agricultural businesses is desirable where it is available. Actual work experience in agricultural retail businesses by the teacher will be invaluable in teaching this course.

Cooperating with Representatives of Business

It is imperative that representatives of local agricultural retail businesses be involved in organizing and implementing this program in a local school. These people can provide valuable advice as to the structure of the course, suggesting equipment to be used in the instructional program, identifying training stations for enrollees, and helping to place enrollees, upon completion of the course.

Provided Supervised Cooperative Occupational Experience

Supervised occupational experience is an integral part of this course. Experience gained on the job cannot be duplicated in the classroom or the school laboratory. The occupational experience program should, if at all possible, be carried on at the time the student is attending classes. Classroom instruction should be implemented on the job. In case occupational experience cannot be provided concurrently with classroom instruction, other provisions should be made to provide this experience. Often occupational experience must be provided when the business is most active and is engaged in a wide range of activities. It would be highly desirable for students to have one-half day released time from school during busy seasons to obtain this experience.

Cooperative occupational experience should be appropriate to the local area. Careful attention should be given to the selection of the cooperative businesses that are to provide work experience. It may be necessary for the teacher to educate the owners and managers of the training businesses about the objectives of the program and their responsibilities in cooperatively developing the best possible training program for the student-trainee. Providing occupational experience for off-farm occupations in agriculture is discussed in detail in the publication entitled, Planning and Conducting Cooperative Occupational Experience in Off-Farm Agriculture, prepared by the Center.

The Setting for the Development of the Course

It was a growing awareness of the urgent need for more definite information on occupational education involving competencies in agriculture that brought leaders in agricultural education and representatives of the United States Office of Education together in planning conferences at the then National Center for Advanced Study and Research in Agricultural Education at the Ohio State University in May, 1963, and January, 1964. At these planning conferences, procedures were outlined to use in studying the need for training in off-farm occupations in agriculture. In January, 1965, and April, 1965, advisory conferences were held at the National Center, at which preliminary research reports were examined. The National Center was urged to develop curriculum guides and courses that would implement these findings. Due to the

magnitude and variety of occupations found to involve competencies in agriculture, those at this conference recommended that the National Center prepare courses in four areas; horticultural service occupations (high school level,) agricultural supply--sales and service (high-school and post-high school level,) agricultural mechanization service occupations (post-high school level,) and agricultural chemicals (technician level.)

As a result of this committee's action and upon the receipt of a grant from the Division of Adult and Vocational Research in the U. S. Office of Education, Selected persons were brought to the Center to develop program guides and course materials in the identified areas.

The selection of areas, the occupations for which the courses were to be developed, and the content of the courses, were determined by the research reported to the Center by the states. This information is contained in the publication entitled, Summary of Research Findings in Off-Farm Agricultural Occupations, prepared by the Center.

Involvement of Personnel from Agricultural Retail Businesses and Agricultural Education

Throughout the development of the course materials, personnel from the fields of agricultural retail businesses and agricultural education were asked for advice and suggestions as to the content of the course and ways of implementing the instruction.

As each module was developed, it was submitted to business representatives, teachers, and university personnel in various states for technical review and criticism. The suggestions made by these persons were evaluated and incorporated into the modules wherever applicable.

The following list of persons evaluated selected modules of the course materials within their area of specialization. Their comments and constructive criticisms aided materially in strengthening the value of these materials. However, the final responsibility for the course rests with personnel at the Center who developed these materials.

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Suggestions for Evaluating the Course

1. Student Evaluation

In making this evaluation, practical tests should supplement written quizzes and examinations. Evaluate students in terms of the objectives of the course. Perhaps the students should be evaluated in terms of:

a. General outlook as reflected by attitude, cooperativeness, and preparedness for work. (Teacher should be well aware of progress in this area.)

b. Work habits (quantity and quality of work, safety mindedness, and dependability)

c. Results of practical tests

d. Written quizzes and examinations

2. Program Evaluation

The teacher should keep the following records of the program for evaluation:

a. Number of students enrolled

b. Number of students completing the course

c. Reasons for students' dropping out

d. Number of students entering jobs in agricultural retail businesses which they were trained

e. Nature of the jobs held

f. The type of jobs the students are holding after one year; after five years

g. Enrollment trends in the course

h. Employer evaluation of the quality of work being accomplished by trainees

3. Ultimate Evaluation

In the final analysis, the success of the course will be based on:

a. Whether or not the students were successfully placed

b. Their degree of success on the job, as seen by the employer

c. Their persistency and advancement in the agricultural business

In order to evaluate, it will be necessary to conduct follow-up studies of the students. Due to the tremendous mobility of our labor force, it is suggested that the teacher develop such a working relationship with the student that students will willingly report to the teacher on their occupational status for at least three years following graduation.

Sources of Suggested Instructional Materials and References for the Outline

Instructional Materials

Posters

1. How Soil pH Affects Availability of Plant Nutrients, poster, National Plant Food Institute, 1700 K Street, Washington, D. C., 20006. Price $.17.

2. Lime Means More Money for You, poster, National Plant Food Institute, 1700 K Street, Washington, D. C., 20006. Price $.10.

Filmstrips, Slides and Films

1. "Dynamic Careers Through Agriculture," 16 mm film, 28 minutes. Farm Film Foundation, 1425 H Street, Northwest, Washington, D. C., 20005.

2. "Feeding Farm Animals," film, 19 minutes, black and white. Washington, D. C.: Motion Picture Service, Office of Information, USDA.

3. "First the Seed," 16mm film, 27 minutes, color and sound, Associated Seed Growers, Ind. Modern Talking Picture Service, 3. E. 54th St., New York.

4. "Getting Along With Others," 16 mm film, 29 minutes. Business Education Films, 5113 16th Avenue, Brooklyn, New York.

5. National Plant Food Institute, 1700 K Street, Washington, D. C. 20006, has the following films and slide sets available:
   "Nutrient Deficiency Symptoms in Plants," 35 mm, 2" x 2" colored slides, price $.25 each.

   "How to Take a Soil Sample," 10 - 35 mm, 2" x 2" colored slides, price $2.50.

   "Soils, Plant Nutrition, and Fertilizers," 64 - 35 mm, 2" x 2" colored slides, price $16.00.

   "Making the Most of a Miracle," 27 minutes, color, free, return postage.

   "The Big Test," 15 minutes, color, free, return postage.

   "What's in the Bag," 17 minutes, color, free, return postage.

   "Weather or Not," 22 minutes, color, free, return postage.

   "The Land's Legacy and Promise," 27 minutes, color, free, return postage.

6. "Personal Qualities for Job Success," Oklahoma State University Film Library, 16 mm. Stillwater, Oklahoma.

7. "Points about Pesticides" and "Facts about Pesticides." Colored filmstrips with 33 1/3 recordings. Order from Manufacturing Chemists' Association, Inc., 1825 Connecticut Avenue, N. W., Washington, D. C.

8. "The Rumen Story," film, 24 minutes, color. Ralston Purina Company. Checkerboard Square, St. Louis, Missouri.

9. "The Safe Use of Pesticides," 21 minutes, color, 16mm, order from your state library.

10. "Salesmanship Series," 16mm film, B and W, 1959. New York: McGraw-Hill Book Company Inc., with titles as follows:

    "The Approach," 10 minutes, $65.00 purchase price.

    "Making the Sale," 17 minutes, $100.00 purchase price.

    Note to Teachers: The films listed above may be available for loan from libraries or audio visual centers. Other titles in the series which are not particularly applicable to this module are:

    "Prospecting," 10 minutes, $65.00 purchase price.

    "The Pre-Approach," 10 minutes, $65.00 purchase price.

11. "A Step Ahead--on Careers in Agriculture," 16mm color film, 14 minutes. Your local New Holland Machinery dealer.

12. "A Tree is Born", 29 minutes, color or black and white, Motion Picture Service, Office of Information, USDA. Washington, D.C.

    "Your Attitude is Showing," 35 mm sound filmstrip, 12 minutes. Charles Steadman, Teacher-Trainer in Distributive Education, University of Pittsburgh, Pittsburgh, Pennsylvania.

Instructional Supplies

1. Representative tags or labels from:

    a. feed sacks

    b. seed sacks

    c. fertilizer bags

    d. chemical containers

2. Different samples of:
   a. Feed--dairy, poultry, rabbit, horse, pet, cattle
   b. Seeds--field crop, vegetable, and ornamental plants
   c. Fertilizer
   d. Insecticides
   e. Herbicides
   f. Fungicides
3. Empty quart oil cans showing different A. P. I. service classifications
4. Oil samples of different viscosities
5. Farm and garden supply catalogs such as:
   a. Nasco's Farm Catalog
   b. Montgomery Ward's Farm Catalog
6. Animal "health products" manuals and catalogs of products published by companies such as the following:
   a. Franklin
   b. Anchor
   c. American Cyanamid
   d. Hess and Clark
   e. Pfizer
   f. Dr. Salsburry
   g. Ralston Purina
   h. Wyeth
7. Materials on agricultural financing available from regional offices of Federal Land Banks
8. Copies of balance sheets of local businesses
9. Credit policies from local merchants
10. Copies of operating statements from local businesses

11. Copies of purchase orders, receiving records, bills of lading, and invoices from local agricultural businesses

12. Copies of sales tickets for practice use by students.

13. Major chemical companies have educational materials which may be appropriate for class instruction in fertilizers and chemicals as well as for teacher or student reference. These materials are being updated continually and the companies are willing to provide them upon request.

References

1. The ABC's of Lubrication, Ashland Oil and Refining Company, Ashland, Kentucky.

2. Agricultural Chemicals - What They Are: How They Are Used. Manufacturing Chemists' Association, Inc., 1825 Connecticut Avenue, N. W., Washington, D. C.

3. Agriculture,: The Sextant Series for Exploring Your Future. Milwaukee: American Liberty Press, 1962. Price for copy with soft cover is $4.00.

4. Agriculture is More than Farming, The Future Farmers' Supply Service, P. O. Box 1180, Alexandria, Virginia.

5. Agricultural Machinery - Service Occupations, The Center for Research and Leadership Development in Vocational and Technical Education, The Ohio State University, 980 Kinnear Road, Columbus, Ohio, 43212, 1965.

6. American Petroleum Institute, 1271 Avenue of the Americas, New York 20, New York has the following publications for sale:

   a. Accident Prevention Manual Number 13, Cleaning Mobile Tanks Used for Transportation of Flammable Liquids.

   b. Accident Prevention Manual Number 8, Safe Practices in Bulk Plant Operations.

   c. Bulletin 1609, Drivers Handbook, 1960.

   d. Bulletin 1608, Driver Selection and Training Guide, 1960.

   e. Bulletin 1614, Drivers' Paper Work.

   f. Bulletin 1616, Petroleum Delivery Truck Operation and Maintenance.

   g. Publication 1535, Buy on Performance, 1959, no charge for single copies.

h. Publication 1509A, Classification of Internal Combustion Engine Service (to guide the choice of crankcase oils), 1960. Price: 25¢.

i. Publication 1609, Drivers Handbook, 1960. Price: 30¢.

j. Publication 1526, A Future for You in Petroleum Marketing, 1965.

k. Publication 1545, Opportunity Around the Corner.

l. Publication 1950, Know Your Oil. Price: 25¢.

m. Publication 1615, Installation of Underground Gasoline Storage Tanks and Piping at Service Stations.

n. Student booklet, Careers in the Oil Industry.

7. Animal and Poultry Nutrition, Ralston Purina Company, Checkerboard Square, St. Louis, Missouri. No Charge.

8. Aptitude Tests for Occupations and an Occupational Interest Inventory," 1956, California Test Bureau, 206 Bridge Street, New Cumberland, Pennsylvania. Price of specimen set: 75¢.

9. Barwick, Ralph P. Identification of Off-Farm Agricultural Occupations, School of Agriculture, University of Delaware, Newark, Delaware.

10. Bail, Joe P. and Gordon, Nelson A., Choosing an Occupation, Misc. Bulletin No. 45, Cornell University, Ithaca, New York, 1963, 11 pages.

11. Better Feeding of Livestock, USDA Farmer's Bulletin No. 2052, Office of Information, United States Department of Agriculture, Washington, D. C., 1952.

12. Blume, George T. Career Exploration, Units I and II, Circular 864, 1962, V. P.I., Agricultural Extension Service, Blacksburg, Virginia.

13. Brake, Beer, Kelsey, Hill, Nielson, and Wirth. Farm and Personal Finance, Michigan State University Press, East Lansing, Michigan.

14. Brower, G. K., Mezera, E. F., and Najt, R. F. LP Gas Engine Fuel--"To be or not to be: That is the Question", reprint, 41st NGPA Convention, 1962, International Harvester Company, Melrose Park, Illinois.

15. Bundy, C. E., et al. Livestock and Poultry Production, 2nd edition, Prentice-Hall, Inc., Englewood Cliffs, New Jersey: 1961. Price: $4.90.

16. Byram, Harold M. Guidance in Agricultural Education, The Interstate Printers and Publishers, 1959. Danville, Illinois: Price: $4.50.

17. Careers Ahead and Challenge in Agriculture. These two bulletins may be ordered from your local land-grant College of Agriculture.

18. Cassard, D. W., et al. Approved Practices in Feeds and Feeding, The Interstate Printers and Publishers, 19-27 N. Jackson, Danville, Illinois: 1959. Price: $2.50.

19. Chemical Handbook on Economic Poisons. Publ. No. 476. Public Health Service, U. S. Department of Health, Washington, D. C.

20. Choosing Your Occupation, 1962. The Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. Price: 15¢ per copy.

21. Christopher, Everett P. Introductory Horticulture, McGraw-Hill Co., New York, 1961. Price: $7.95.

22. Cole, H. H. Introduction to Livestock Production, W. H. Freeman and Company, San Francisco, California, 1962. Price: $8.75.

23. Conover, H. S. Grounds Maintenance Handbook. Second Edition, F. W. Dodge Corporation, New York, New York, 1958.

24. Controlling Insects on Flowers. Information Bulletin No. 237, Office of Information, United States Department of Agriculture, Washington, D. C. 1962.

25. Crabbe and Enterline. General Business. Southwestern Publishing Company, Cincinnati, Ohio.

26. Cushman, Harold R. et al., Off-Farm Agricultural Occupations in New York State, Agricultural Education Division, Rural Education Department, Cornell University, Ithaca, New York.

27. Delorit and Algren. Crop Production, New York: MacMillen Co., 1959. Price: $6.84.

28. Dictionary of Plant Foods, Ware Bros. Co., Farm Chemicals Division 317 N. Broad Street, Philadelphia, Pennsylvania, 51 pages.

29. Displays Made Easy, Distributive Education Service, Material Laboratory. Ohio State University, Columbus, Ohio.

30. Duncan, Clyde H. Find a Career in Agriculture, G. P. Putmans Sons, 200 Madison Avenue, New York, New York, 1961. Price: $2.50.

31. Education, an Investment in People, Education Department, Chamber of Commerce of the United States, Washington, D. C. Price: $1.50.

32. Ernest and DaVall. Salesmanship Fundamentals, Second Edition, New York: McGraw-Hill Book Company, Inc.

33. Farm Chemical Handbook. Meister Publishing Company, 37841 Euclid Avenue, Willoughby, Ohio. Price: $10, published annually.

34. Feed Additive Compendium, Feedstuffs, 2501 Wayzata Blvd., P. O. Box 67, Minneapolis, Minnesota. Price: $2.50 per year.

35. Frear, D. E. H. Pesticide Handbook - Entoma. College Science Publishers, State College, Pennsylvania. Price: $2.50, published annually.

36. Fuller, Gerald R., Education for Agricultural Occupations, The Interstate Printers and Publishers, Inc., Danville, Illinois, 1965, 42 pages, soft cover.

37. Getting Ahead in Retail Selling, The National Cash Register Company, Dayton, Ohio, 17 pages.

38. Glossary of Terms Relating to the Lubricating Grease Industry, National Lubricating Grease Institute, Kansas City, Missouri.

39. A Handbook for National FFA Officers, bulletin, The National Future Farmer, Alexandria, Virginia, 1964.

40. Hartman and Kester. Plant Propagation - Principles and Practice (teacher reference only.) Prentice Hall, Englewood, New Jersey. 1961.

41. Hedges. Landscaping Your Home, 1962. Vocational Agriculture Instructional Materials Service, Ohio Department of Education, 2120 Fyffe Road, Columbus , Ohio. Price: $1.00.

42. Hemp, Paul E. and Alfred H. Krebs. A Study Guide for Placement-Employment Programs in Agricultural Business and Industry, Interstate Printers and Publishers, 1964.

43. Hoover, Norman K. Handbook of Agricultural Occupations, The Interstate Printers and Publishers, Danville, Illinois, 1963. Price: $4.75.

44. Hoover and Juergeson. Approved Practices in Beautifying Home Grounds. Interstate Printing Co., Danville, Illinois, 1959. Price: $3.50.

45. Horkheimer, Mary F. and Fowlkes, John G., Educators' Guide to Free Films, Educators Progress Service, Randolph, Wisconsin, 1964, 631 pages, soft back.

46. How to Get Good Soil Samples, American Potash Institute, Inc., 1102 16th Street, N. W., Washington, D. C., 12 pages, no charge.

47. Improving Supervised Practice in Vocational Agriculture, Bulletin No. 361, North Carolina State Department of Public Instruction, Raleigh, North Carolina, 1963, 34 pages, soft cover.

48. James, Gerald B. "Vocational and Technical Education," Using Current Curriculum Developments, Association for Supervision and Curriculum Development, National Education Association, Washington, D. C. 1963.

49. Janick, J. Horticultural Science. W. H. Freeman and Company, San Francisco, California, 1963.

50. Jobs in Agriculture, Science Research Associates, Inc., 259 Erie Street, Chicago, Illinois, 1960. Price: $1.00.

51. Kahil, P. Additives in Lubricants, SAE Journal, September, 1962, pp. 179-186.

52. Mineral Feeding Facts, 1964-1965 edition, Darling and Company, Union Stock Yards, Chicago, Illinois. No Charge.

53. Morrison, F. B. Feeds and Feeding, 9th edition, abridged, The Morrison Publishing Company, Ithaca, New York: 1956. Price: $4.75.

54. Motor Oil Additives and Their Functions, Technical Notes Series, The Ethyl Corporation of America, New York.

55. McLarney, William J. Management Training, Cases and Principles, Richard D. Irwin, Inc., Homewood, Illinois. 1959.

56. McNaughton, W. L. Business Organization, Littlefield, Adams and Company, Patterson, New Jersey. 243 pp. Price: $1.50.

57. McNaughton, W. L. Introduction to Business Enterprise, John Wiley and Sons, Inc., New York. 538 pp. Price: $5.62.

58. McVickar, M. H., Using Commercial Fertilizers, 2nd edition, The Interstate Printers and Publishers, 19-27 N. Jackson, Danville, Illinois, 1961. Price $3.95.

59. National Plant Food Institute, 1700 K Street, N. W., Washington, D. C., 20006, has the following publications available:

    a. Our Land and Its Care, 1962. 72 pp. Price $.16.

    b. Be Your Own Corn Doctor, 4 pp. Price $.03.

    c. What is Fertilizer?, 14 pages, Price $.08.

    d. How to Take a Soil Sample, 2 pp. Price $.02.

    e. Methods of Applying Fertilizer, 20 pp. Price $.10.

    f. The Fertilizer Handbook, 1963. Price $2.00.

60. Phillips, Richard. Managing for Greater Returns. Agricultural Research, Inc., Manhattan, Kansas.

61. Phipps, Lloyd J. Your Opportunities in Vocational Agriculture, The Interstate Printers and Publishers, Danville, Illinois. 1962. Price: $3.25.

62. Planning and Conducting Cooperative Occupational Experience in Off-Farm Agriculture, Center for Vocational and Technical Education, The Ohio State University, 980 Kinnear Road, Columbus, Ohio, 43212. 1965, soft back.

63. Records of Supervised Occupational Experience and Training in Vocational Agriculture, French-Bray Printing Co., Candler Building, Baltimore, Maryland, 21202, 16 pages. Price $.50, less if purchased in quantity.

64. Richert, G. H., Meyer, W. G., and Haines, P. G. Retailing Principles and Practices, Fourth Edition, New York: Gregg Publishing Division, McGraw-Hill Book Company, Inc., 1962.

65. Robinson, Blackler, and Logan. Store Salesmanship, Fifth Edition. Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1959.

66. Rowse and Nolan. Fundamentals of Advertising, Sixth Edition, Cincinnati, Ohio: Southwestern Publishing Company, 1957.

67. Sauter, N. A. Modern Farm Machines Need Modern Greases, Agricultural Engineering Journal, January, 1956, reprints available.

68. Schneider, G. W. and Scarborough, C. C. Fruit Growing. Englewood Cliffs, New Jersey: Prentice-Hall, Inc., 1960. Price: $3.95.

69. Selecting and Storing Tractor Fuels and Lubricants, Southern Association of Agricultural Engineering and Vocational Agriculture, Athens, Georgia, 1964. Price: $1.25.

70. Serif, Ned. How to Manage Yourself, Volume I, (paperback), 1961. Cities Service Oil Company, Business Research and Education Division, Marketing Training Department, 60 Wall Street, New York, New York.

71. Sferro, Wright, and Rice. Personality and Human Relations, Second Edition, Text-Workbook, Hightstown, New Jersey: Gregg Publishing Division, McGraw-Hill Book Company. Price: $3.95.

72. Shoemaker, James S. General Horticulture, Lippincott Co., Philadelphia, Pennsylvania. 1952. (or similar standard work of later date)

73. Storage and Handling of Liquified Petroleum Gases 1965, NFPA Bulletin No. 58, National Fire Protection Association, 60 Batterymarch St., Boston, Massachusetts, 02110.

74. A Study Guide for Placement Employment Programs in Agricultural Business and Industry, Interstate Printers and Publishers, Danville, Illinois, 1965.

75. Teacher's Guide for the Effective Use of Records of Supervised Occupational Experience and Training in Vocational Agriculture, French-Bray Printing Co., Candler Building, Baltimore, Maryland, 21202, 9 pages. Price $.50, less if purchased in quantity.

76. Technical Education Needs of Persons Engaged in Agricultural Occupations, Department of Agricultural Education, The Pennsylvania State University, University Park, Pennsylvania.

77. There's a Future in Your Farm Background," 1958. The National Sales Executives, Inc., 630 Third Avenue, New York, New York. No Charge.

78. Seeds: Yearbook of the U. S. Department of Agriculture. Office of Publication, U. S. Department of Agriculture, Washington, D. C. 1961.

79. Walker, R. W., Stevens, G. Z., and Hoover, N. K. Pennsylvania Vocational Agriculture Interest Inventory, Danville, Illinois: Interstate Printers and Publishers, Specimen Set. Price: $1.00.

80. Warmbrod, J. Robert. Workers Employed and Employment Opportunities for Workers Needing a Knowledge of Agriculture, Division of Agricultural Education, College of Education, University of Illinois, Urbana, Illinois.

81. Weyant, J. Thomas, Hoover, Norman K., and McClay, David R. An Introduction to Agricultural Business and Industry, Interstate Printers and Publishers, Danville, Illinois. 1965. A student's text with a teacher's guide.

82. Wilkinson, E. C., The Sextant Series for Exploring Your Future in Agriculture, Milwaukee, Wisconsin: American Liberty Press, 1962, 94 pages, soft cover. Price $4.00 per copy if ordered through the National Future Farmer Magazine.

83. Wilson, Howard. Living with Yourself, (paperback), 1962. Administrative Research Associates, Box 3, Deerfield, Illinois. Approximate price: $1.00.

84. Wilson, Howard. Understanding People (paperback), 1962. Administrative Research Associates, Box 3, Deerfield, Illinois. Approximate price: $1.00.

85. Wingate and Nolan. Fundamentals of Selling, Seventh Edition, Southwestern Publishing Company, Cincinnati, Ohio. 1959.

86. Wingate and Weiner. Retail Merchandising, Fifth Edition, Southwestern Publishing Company, Cincinnati, Ohio. 1957.

87. Wittick, W. A., and Halstead, G. H., Educators' Guide to Free Tapes, Scripts, and Transcriptions, Educators Progress Service, Randolph, Wisconsin, 1962, 211 pages, soft back.

88. Woelfel. Guides for Profit Planning, Small Business Administration, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C.

89. Wolf, Willard H. Preparing Students for Non-Farm Agricultural Occupations, Department of Agricultural Education, The Ohio State University, 2120 Fyffe Road, Columbus, Ohio, 43210.

90. Your Off-the-farm Business. Superior, Wisconsin: Central Cooperative, Inc. 55 pp.

91. Youth Wants to Know About Business Organization. Minneapolis: Minneapolis Grain Exchange, 4th St. and 4th Ave.

Miscellaneous Materials

1. Career information available from major oil companies

2. Policy manuals of local agricultural businesses

3. Publications from local distributors of oil companies pertaining to safety

4. Rules and regulations for storage and transportation of liquid petroleum are available from the state fire marshal's office in the different states.

5. Some publications are usually available through the Division of Distributive Education of a state.

6. Yearbooks published annually by the U. S. Department of Agriculture are available from the Superintendent of Documents, Washington, D. C.

THE CENTER FOR RESEARCH AND LEADERSHIP DEVELOPMENT
IN VOCATIONAL AND TECHNICAL EDUCATION
THE OHIO STATE UNIVERSITY
980 KINNEAR ROAD
COLUMBUS, OHIO, 43212

INSTRUCTOR NOTE: As soon as you have completed teaching each module, please record your reaction on this form and return to the above address.

1. Instructor's Name_____

2. Name of school_____State_____

3. Course outline used: _____Agriculture Supply--Sales and Service Occupations
   _____Ornamental Horticulture--Service Occupations
   _____Agricultural Machinery--Service Occupations

4. Name of module evaluated in this report_____

5. To what group (age and/or class description) was this material presented?____
   _____

6. How many students:
   a) Were enrolled in class (total) _____
   b) Participated in studying this module _____
   c) Participated in a related occupational work experience program while you taught this module _____

7. Actual time spent teaching module:

		Recommended time if you were to teach the module again:
_____hours	Classroom Instruction	_____hours
_____hours	Laboratory Experience	_____hours
_____hours	Occupational Experience (Average time for each student participating)	_____hours
_____hours	Total time	_____hours

(RESPOND TO THE FOLLOWING STATEMENTS WITH A CHECK (✓) ALONG THE LINE TO INDICATE YOUR BEST ESTIMATE.)

	VERY APPROPRIATE	NOT APPROPRIATE
8. The suggested time allotments given with this module were:	____.____.____.____	
9. The suggestions for introducing this module were:	____.____.____.____	
10. The suggested competencies to be developed were:	____.____.____.____	
11. For your particular class situation, the level of subject matter content was:	____.____.____.____	
12. The Suggested Teaching-Learning Activities were:	____.____.____.____	
13. The Suggested Instructional Materials and References were:	____.____.____.____	
14. The Suggested Occupational Experiences were:	____.____.____.____	

(OVER)

15. Was the subject matter content sufficiently detailed to enable you to develop the desired degree of competency in the student? Yes_____No_____
Comments:

16. Was the subject matter content directly related to the type of occupational experience the student received? Yes_____No_____
Comments:

17. List any subject matter items which should be added or deleted:

18. List any additional instructional materials and references which you used or think appropriate:

19. List any additional Teaching-Learning Activities which you feel were particularly successful:

20. List any additional Occupational Work Experiences you used or feel appropriate:

21. What do you see as the major strength of this module?

22. What do you see as the major weakness of this module?

23. Other comments concerning this module:

_____ _____
(Date) (Instructor's Signature)

_____
(School Address)